

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* AUGUST K. MEYER  
and  
JEFFREY S. DUGAN

---

Appeal 2006-2570  
Application 10/722,380  
Technology Center 1700

---

Decided: March 27, 2007

---

Before EDWARD C. KIMLIN, PETER F. KRATZ, and  
JEFFREY T. SMITH, *Administrative Patent Judges*.  
SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 11-13, 21-23, 26, 27, 30-34, and 39-44. We have jurisdiction under 35 U.S.C. § 6.

Appeal 2006-2570  
Application 10/722,380

Appellants invented polymeric fibers with a component containing a luminescent colorant (Specification 1). Claim 31, the sole independent claim, is reproduced below:

31. A sheath and core bicomponent comprising:  
  
a sheath comprising a non-luminescent first polymeric component;  
and  
  
a core comprising a second polymeric component, the second polymer component comprising at least one fluorescent or phosphorescent colorant;  
  
wherein the core comprises less than about 20% of the cross-sectional area of the bicomponent fiber.

The prior art set forth below is relied upon by the Examiner as evidence of obviousness:

Phyllis, "Fairchild's Dictionary of Textiles," 7<sup>th</sup> Ed., 53, 373, and 510 (Apr. 1996)

Shimizu	US 6,162,539	Dec. 19, 2000
---------	--------------	---------------

Magill	US 6,855,422 B2	Feb. 15, 2005
--------	-----------------	---------------

Claims 11-13, 21-23, 26, 27, 31-34, and 39 stand rejected under 35 U.S.C. §103 (a) as unpatentable over Shimizu in combination with Magill. Claims 11-13, 26, 27, 30, 31, and 39-44 stand rejected under 35 U.S.C. § 102(e) as anticipated by Magill.

I. Claims 11-13, 21-23, 26, 27, 31-34, and 39 stand rejected under 35 U.S.C. §103 (a) as unpatentable over Shimizu in combination with Magill.

The Examiner finds that claim 31 distinguishes from the bicomponent fiber of Shimizu in that the ratio of the luminescent colorant-containing core component to sheath component (cross-sectional area) is in the range of 1:3 (Answer 4). The Examiner finds that Magill describes multicomponent (core/sheath) fibers having luminescent colorants that have varying cross-sectional area ratios for the core to sheath (Answer 4). The Examiner concludes that it would have been obvious for one with ordinary skill in this art to formulate bicomponent fibers comprising a luminescent colorant-containing core component of the bicomponent fiber comprising less than about 20% of the cross-sectional area of the bicomponent fiber (Answer 5).

Appellants argue that Shimizu teaches away from a core to sheath ratio of less than 1:3 and would not motivate a person of ordinary skill in the art to produce a fiber having a core cross-sectional area as low as about 20% when the core component contains a luminescent colorant (Br 4). Appellants further argue that the Magill reference is directed to a multicomponent fiber having a phase change material and is not directed to core/sheath fibers intended to be highly luminous (Br 4). Thus, Appellants argue that the two references are not directed to solving the same types of problems in the art (Br 4).

#### Issue

Would one with ordinary skill in this art have reasonably expected success in combining the teachings of Shimizu and Magill in the manner proposed by the Examiner? More specifically, the issue is whether a person of ordinary skill in the art would have reasonably expected that the high

luminance luminous fiber core sheath material of Shimizu could have been formulated to have a core to sheath ratio as low as about 20%? We answer this question in the affirmative.

#### Findings of Fact

Appellants invented multicomponent fibers comprising a luminescent colorant containing core component that comprises less than about 20% of the total cross-sectional area of the fiber (Specification [0053]).

Specification discloses that despite the reduced percentage of luminescent colorant containing component, the fibers of the invention can exhibit light emissions the same as or even greater than fibers with the same color ramped at higher loadings” (Specification [0053]).

Shimizu describes high luminance luminous fiber wherein the core component comprises the high luminance pigment (col. 2: 43-47). Shimizu discloses the preferred core sheath ratio is in the range of from 1:3 to 1:1 by volume (para. bridging cols. 2 and 3).

Magill describes multicomponent fibers having improved processability, improved strength and improved containment of phase change materials (col. 1: 21-34). The multicomponent fiber can comprise a core member that comprises a temperature regulating material and a sheath member that surrounds the core (col. 2: 42-47). Magill discloses the core/sheath fibers may comprise virtually any percentages by weight of a core member and a sheath member to provide the desired mechanical properties (col. 9: 51-54).

### Principles of Law

Obviousness under 35 U.S.C. § 103 does not require absolute predictability of success. *In re O'Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). For obviousness under § 103, all that is required is a reasonable expectation of success. *Id.*

“Once a prima facie case of obviousness has been established, the burden shifts to the applicant to come forward with evidence of nonobviousness to overcome the prima facie case.” *In re Huang*, 100 F.3d 135, 139, 40 USPQ2d 1685, 1689 (Fed. Cir. 1996).

### Analysis

We do not agree with Appellants' argument that Shimizu teaches away from a core to sheath ratio of less than 1:3. The range identified in the Shimizu reference is indicated as a preferred range. (*See* paragraph bridging columns 2 and 3). The present record establishes that the desired mechanical properties control the selection of the ratio of the core component to the component in core/sheath fiber materials. (*See* the Magill reference). As such a person of ordinary skill in the art would have reasonably expected that the core/sheath fibers described by Shimizu could possess a core cross-sectional area of about 20% which is slightly below the preferred range identified. Appellants have not identified evidence that establishes a substantial reduction in the mechanical properties would have resulted in the fibers of Shimizu when the core comprises a cross-sectional area of about 20% which is slightly below the preferred range provided in the reference.

### Conclusion of Law

Based on the record of this appeal, one with ordinary skill in this art would have had a reasonable expectation that the core/sheath fibers described by Shimizu can have an effective core cross-sectional area of about 20% as proposed by the Examiner.

II. Claims 11-13, 26, 27, 30, 31, and 39-44 stand rejected under 35 U.S.C. § 102(e) as anticipated by Magill.

The Examiner contends that Magill describes multicomponent core/sheath fibers that can comprise luminescent pigments (Answer 5). The Examiner contends that Magill's claim 4 establishes that the core component can have a cross-sectional area of 10% to 90% by weight (Answer 5). The Examiner also references column 9 of Magill for disclosing that the core/sheath fibers may comprise virtually any percentages by weight of a core member and a sheath member (Answer 8).

### Issue

The issue before us is whether the Examiner has properly determined that the Magill reference teaches or describes the claimed subject matter under 35 U.S.C. §102(e). Specifically, the issue is whether the Examiner has properly determined that Magill describes a specific disclosure that includes a sheath and core bicomponent fiber wherein the core comprises less than about 20% of the cross-sectional area of the bicomponent fiber? We answer this question in the negative.

### Principles of Law

The Examiner bears the initial burden of establishing a prima facie case of anticipation *In re King*, 801 F.2d 1324, 1326-27, 231 USPQ 136, 138 (Fed. Cir. 1986). Anticipation under 35 U.S.C. § 102 requires that a prior art reference describe each and every limitation of a claimed invention with “sufficient specificity” to establish anticipation *Atofina v. Great Lakes Chemical Corp.*, 441 F3d 991, 78 USPQ2d 1417 (Fed. Cir. 2006)).

### Analysis

The citation to various disclosures in the Magill reference that describe that the core/sheath multicomponent fiber may comprise virtually any percentages by weight of a core member and a sheath member is insufficient to establish anticipation of the claimed range. Anticipation under § 102 requires that a prior art reference describes each and every limitation of a claimed invention with sufficient specificity. The portions of the Magill reference that have been cited, without additional explanation, are insufficient to describe the claimed subject matter within the meaning of § 102.

### Conclusion of Law

The Magill reference does not anticipate the subject matter of claim 31 because the reference does not have a sufficiently specific disclosure that describes a sheath and core bicomponent fiber wherein the core comprises less than about 20% of the cross-sectional area of the bicomponent fiber.

Remand to the Examiner

While the facts herein do not support an ultimate conclusion of anticipation under the requirements of 35 U.S.C. § 102 over the Magill reference, this does not indicate that the facts do not support a finding of obviousness under 35 U.S.C. § 103 over the Magill reference.

It is well settled that the disclosure of overlapping ranges for each element in a composition by the prior art renders the claimed composition *prima facie* obvious. In this appeal, the Magill reference discloses ranges for the claimed components that encompass and substantially overlap the claimed range. *See In re Peterson*, 315 F.3d 1325, 1329-30, 65 U.S.P.Q.2d 1379, 1382 (Fed. Cir. 2003) ("A *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art," with selection of a narrow range from a somewhat broader range disclosed in a prior art reference no less obvious than identifying a range that simply overlaps a disclosed range; in fact, when the claimed ranges are completely encompassed by the prior art, the conclusion of obviousness is even more compelling than in cases of mere overlap); *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); and *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990).

The difference in the statutory basis for the rejection can, in some instances, be an important one. A rejection under 35 U.S.C. § 103(a) can be overcome by a showing of secondary considerations such as a showing of unexpected results whereas a proper rejection under 35 U.S.C. § 102 cannot.



Appeal 2006-2570  
Application 10/722,380

See *In re Malagari*, 499 F.2d 1297, 1303, 182 U.S.P.Q. 549, 553 (C.C.P.A. 1974).

We remand the application to the Examiner for a determination as to whether a rejection under 35 USC §103 is appropriate for the claims that are no longer subjected to a prior art rejection.<sup>1</sup> The Examiner should determine whether the disclosure of the Magill reference along with any other prior art references renders the subject matter unpatentable.

#### Decision

The decision of the Examiner rejecting claims 11-13, 21-23, 26, 27, 31-34, and 39 under 35 U.S.C. §103 (a) as unpatentable over Shimizu in combination with Magill is affirmed.

The decision of the Examiner rejecting claims 11-13, 26, 27, 30, 31, and 39-44 stand rejected under 35 U.S.C. § 102(e) as anticipated by Magill is reversed.

The instant application is remanded to the Examiner to consider the aforementioned issues and act accordingly.

In addition to affirming the examiner's rejection of one or more claims, this decision contains a remand. 37 C.F.R. § 41.50(e) provides that

[w]hen a decision of the Board includes a remand, that decision shall not be considered final for judicial review. When appropriate, upon

---

<sup>1</sup> Dependent claims 30 and 40-44 were only rejected over the McGill reference alone.

Appeal 2006-2570  
Application 10/722,380

conclusion of proceedings on remand before the examiner, the Board may enter an order otherwise making its decision final for judicial review.

Regarding any affirmed rejection, 37 C.F.R. § 41.52(a)(1) provides "[a]ppellant[s] may file a single request for rehearing within two months from the date of the original decision of the Board."

The effective date of the affirmance is deferred until conclusion of the proceedings before the examiner unless, as a mere incident to the limited proceedings, the affirmed rejection is overcome. If the proceedings before the examiner do not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejections, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART  
REMANDED

cam

Alston & Bird, LLP  
Bank of America Plaza  
101 South Tryon Street, Suite 4000  
Charlotte, NC 28280-4000